



PNG POWER Ltd

QUOTATION NO: E4325/2021

**"CONSTRUCTION OF STORM WATER DRAINAGE TYPE 6,
RESTORING OF 50M GATE ACCESS ROAD & BACKFILLING OF THE
BOMANA SUBSTATION,
BOMANA , NATIONAL CAPITAL DISTRICT."**

Prepared By: _____

[Signature] JINATH KINTA

Checked By: _____

[Signature] C. KINTA

Authorized By: _____

[Signature] SKANPA

Dated: _____

14/01/2021

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FRONTISPIECE

BRIEF DESCRIPTION OF WORK

Works under this contract consists of the construction of storm water drainage, restoring of 50m access road , backfilling and compacting of the Bomana Substation, Bomana, National Capital District.



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PREFACE

INVITATION TO QUOTE

Quotations close with:

*PNG Power Limited,
P.O. Box 1105,
BOROKO, NCD
Papua New Guinea.*

At 4pm Friday 19 /02/ 2019

The Quotation Submission shall consist of the Quotation Deposit together with the original and one (1) copy of each of the following (Section 2), all duly completed;

- ❖ Form of Quotation.
- ❖ Quotation Data.
- ❖ Schedule of Rates for Variation.
- ❖ Any other information/document called for in the Specification or subsequent addenda.
- ❖ Additional information/documents offered by the Bidder to aid evaluation of the Quotation.

Enquiries during the Quotation period shall be addressed to:

*PNG Power Limited,
P.O.Box 1105,
BOROKO, NCD
Papua New Guinea.*

Attention:

1. Mr. Jonah Kinta
Civil Specialist Engineer
Cr.wards Drive , Hohola, NCD
Call Centre: 7090 8000 \ 7500 8000
2. Substation Maintenance Engineer
Angau Drive Boroko, PO Box 1105, Boroko, NCD, 111, Papua New Guinea
Tel: 311 3189 | Call Centre: 7090 8000 \ 7500 8000
Telephone: 324 3160
Fax: 325 0185

SECTION 1
DOCUMENTS TO BE SUBMITTED WHEN QUOTING

QUOTATION NO: E4325/2021**(A) QUOTATION FORM**

Bidders are required to complete the blank spaces in this Quotation Form and complete the Schedules included in this Document.

To: **PNG Power Limited,
P.O. Box 1105,
BOROKO P.N.G.**

Gentlemen;

1. Having examined the Drawings, Specification and Scope of Works for the execution of the above named Works, we, the undersigned, offer to execute, complete and remedy defects in the whole of the said Works in conformity with the said Drawings, Conditions of Contract, Specification and Schedules for the sum of (words & figures) (K.....) or such other sum as may be determined in accordance with the said conditions.
2. We undertake, if our Quotation is accepted, to complete and deliver the whole of the Works comprised in the Contract within «pcompletion»s subject to the said conditions.
3. If our Quotation is accepted we will, if required, obtain the guarantee of an Insurance Company or Bank or other sureties (to be approved by you) to be jointly and severally bound with us in a sum not exceeding five percent (5%) of the above-named sum for the due performance of the Contract.
4. We agree to abide by this Quotation for the period of «tvalid» days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before expiration of that period.
5. Unless and until a Formal Agreement is prepared and executed, this Quotation, together with your written acceptance thereof, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any Quotation you may receive.

Signed and sealed for and on behalf of :)

.....)
by:)
the:.....)
of the said Company thereunto)
Authorized in the presence of:)
Address of Bidder:



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(B) QUOTATION DATA

(i) SUB-CONTRACTORS

Bidders shall list the sections of work and the names and address of sub-contractors nominated to carry out any portion of the works.

Portion of works;

Sub-Contractor's Name and Address

(ii) CONTRACT SUPERVISION

Bidders shall list their proposed supervisory staff for this Contract. (Number and designation only).

(iii) STATEMENT OF EXPERIENCE

The Bidder shall state hereunder facts in detail describing previous experience and achievements in performing similar or comparable works together with the names of authorities for whom, and the dates when, such works was carried out.

(iv) STATEMENT OF RESOURCES

The Bidder shall state hereunder facts in detail sufficient to describe his resources, including technical, financial, manufacturing and constructional where applicable to indicate his ability to carry out the Contract.

(v) BIDDER'S ORGANIZATION

a. To be filled by a Corporation or Syndicate only

1. Name:
2. Business Address: Phone:
P.O. Box No: Fax:
..... Email:
3. Date Organised/Registered:
4. Current Authorized Capital:
5. Current Subscribed Capital:
6. Current Paid-Up Capital:
7. Ownership of Company by Nationality:
8. Bank/Branch:

b. To be filled by a partnership only

1. Name:
2. Business Address: Phone:
P.O. Box No: Fax:
..... Email:
3. Date Organised/Registered Capital:
4. Type of Partnership:
5. Names and Address of Partners:
 - a.
 - b.
 - c.
 - d.
 - e.
6. Current Total Capital showing contribution of individual partners:
Partner a: Partner b:
Partner c: Partner d:
Partner e:

c. To be filled by an Individual Licensed Contractor only.

1. Name: Nationality:
2. Business Address: Phone:
P.O. Box No: Fax:
..... Email:
3. Date Registered:
4. Capital:
5. Bank/Branch:

d. To be provided by all Bidders.

1. A declaration stating the proportion of National Ownership.
2. Documentation or evidence proving either NIDA Registration (or exemption) or IPA Certification of the Tender.
3. Certificate of compliance issued by the taxation office.
4. VAT Registration Number.

(vi) TECHNICAL INFORMATION

The Bidder shall provide, if considered necessary, the following information:

- | | |
|---------------------------|--|
| a. Clause or Schedule No. | Departures from the Requirement of this Specification with Details of Alternative Proposal |
|---------------------------|--|

b. Details of Specific Products when specifically called for in the Specification. (This should include Brand Names and Model Numbers)

c. Method Statement: Full Details shall be given Detailing the Proposed Method of Construction of Works.



QUOTATION NO: E432S/2021


(vii)

CONSTRUCTION SCHEDULE

ACTIVITY	1	2	3	4	5	6
Mobilisation						
Clearing & Disposal of unsuitable materials						
Backfill, levelling and compaction to the entire area						
Supplying & Construction of Type 6 Drainage with associated drains as per design.						
Clean Up and Demobilise						

(C) PRICE SCHEDULE

(BILL OF QUANTITIES)


Project:		RECONSTRUCTION OF PROPOSED CONCRETE DRAINAGE AT BOMANA PNGPOWER SUB STATION				
BILL OF QUANTITIES						
Item		Description	Unit	Qty	Rate	Amount
BILL A - PRELIMINARY						
1.00	Mobilization					
	1.01	Mobilize all materials, plants, tools, labour etc to Site to commence work promptly in time.	item	1		
	1.02	Demobilize all materials, plants, tools, labour etc from site promptly.	item	1		
	1.03	Transportation of Materials		1		
2.00	Site Establishment					
	2.01	Any existing services that is in the way of the construction, the Builder shall notify the Client before any corrective action be taken either to divert, seal off, disconnect, extend or remove.	item	1		
	2.02	Allow for temporary buildings that are necessary for smooth running of the works but not limited to Site Project Manager's office, toilet and other amenities/facilities, meeting rooms, site staff offices, loose furniture, joinery, secure storage sheds.... Etc .	item	1		
	2.03	Establish temporary site services for water, power and sewer as may be required during the contract period. Demolish and remove at completion.	item	1		
	2.04	If needed, allow for laydown area for storing, safe keeping, working space, etc for plant, materials and labour for the benefit of the works on site.		1		
	2.05	Provide all temporary fencing, hoardings, vehicular gates (1 No), pedestrian gates (1No), barricades, screens etc, as may be necessary to comply with regulations concerning the safety of human lives and properties.	item	1		
	2.06	Protect contiguous buildings liable to injury or damage through the carrying out of this Contract.	item	1		
3.00	Site Operation Cost					
	3.01	Maintaining temporary site services - water, power and sewer	item	1		
	3.02	Provide Night and Day Watch guards monitoring human, animal and vehicular traffic within the site so as to minimize or avoid disruption to owner's operation and construction progress.	item	1		

**Project: RECONSTRUCTION OF PROPOSED CONCRETE DRAINAGE AT
BOMANA PNGPOWER SUB STATION**



BILL OF QUANTITIES

Item		Description	Unit	Qty	Rate	Amount
	3.03	Identification Tags shall be provided to all Contractor's employees. The Contractor shall be responsible for all nominated and selected Sub-Contractors' entry to the site works.	item	1		
	3.04	Allow for Health, Safety and Environment to the client's standard and local/statutory regulations.	item	1		
	3.05	First Aid kit supply to workers on site at all times.	item	1		
	3.06	Clean up rubbish of every description and every trade during the course of the Contract and remove from site on a daily basis.	item	1		
	3.07	During construction cover all finished works and fitouts to avoid dents, scratches, etc. Clean and polish at completion.	item	1		
	3.08	The Builder shall protect all existing services adjacent to the building site from any possible damage. Any damage caused to any existing services during the progress of the works shall be made good to the satisfaction of the client	item	1		
4.00	Site Overhead					
	4.01	Allow mobilizing, maintaining Site Management (from Foreman to Site Manager) and Site Office Personnel/Staff. Demobilize on completion.	item	1		
	4.02	If needed, allow for site support staff such as clerks, cleaners, housekeepers, etc for the smooth running of the site.	item	1		
	4.03	Allow for major plant needed on site, eg, crane etc if needed	item	1		
	4.04	Allow for minor plant and equipment needed on site.	item	1		
	4.05	Provide, mobilize, control and maintain appropriate vehicle(s) on site to achieve a smooth work progress. Demobilise at completion.	item	1		
5.00	Fees and Premiums					
	5.01	Unless specified by the Condition of Contracts, the Builder shall provide cover for 1. Worker's Compensation, 2. Public Liability, 3. Surrounding Properties, 4. The Works under the contract.	item	1		
6.00	Statutory Compliance					
	6.01	Allow for complying with regulations governing building/construction with respect to the Contract covering but not limited to permits, licenses, fees, etc.	item	1		
7.00	Miscellanies					

Project:	RECONSTRUCTION OF PROPOSED CONCRETE DRAINAGE AT BOMANA PNGPOWER SUB STATION	
BILL OF QUANTITIES		


Item	Description	Unit	Qty	Rate	Amount
7.01	Allow for those conditions which would incur costs that are not otherwise allowed for in any or each of the trades. Care shall be taken to allow for special conditions only (Lump Sum). The Bidder shall supply details on request..	item	1		
7.02	The Builder shall set out the works including all correct positions, levels, dimensions and alignment of all parts and take responsibility for the accuracy of the same. Provide all necessary profiles, templates etc, as may be required in the setting out. The Builder shall rectify any consequence of his error.	item	1		
7.03	Allow for protection of datum and bench marks.	item	1		
8.00	Testing	item	1		
9.00	Product Guarantee	item			
10.00	Materials Samples	item	1		
11.00	Construction Programme				
11.01	The Builder shall provide a Construction program as part of his bid showing the following features: All trades, resources (gangs and plants) and projected weekly cashflow and the Critical Path. The Program shall be tailored to achieve 'continuity in the client's daily operations/functions' as specified/required. This program shall be revised progressively during construction with genuine reasons and schedules of changes on each revision.	item	1		
13.00	Care of Works	item	1		
14.00	Site Inspection	item			
14.01	The Contractor shall make a personal inspection of the site to ascertain the correct means of access thereto, and to acquaint himself with ground conditions, working space and surroundings, property adjacent to the site, the challenges of logistics and any other matter which may influence him in making up his Tender.	item	1		
15.00	Site Meeting				
15.01	Facilitate efficient site meetings between the client and the Contactor and their agents or staff members. Minimize all disturbances during meeting period. Ensure security on site is aware while meeting is conducted and when Client's agents/ reps are on duty as per the contract.	item	1		
15.02	Conduct meetings as specified with the labour force on site to ensure the instructions are effectively passed down to the workforce for proper and timely workmanship on site.	item	1		
16.00	Site Dairy				

Project: RECONSTRUCTION OF PROPOSED CONCRETE DRAINAGE AT BOMANA PNGPOWER SUB STATION



BILL OF QUANTITIES

Item		Description	Unit	Qty	Rate	Amount
	16.01	The Builder shall keep a daily diary on site recording the activities carried out, elemental quantities of work done, personnel on site, Sub-Contractors on site, weather pattern (esp. time lost during inclement weather), accidents, force majeure (natural obstructions) etc. This site dairy shall be submitted to the client on a daily basis at close of business except for weekends and holidays to be submitted on the next working day.	item	1		
17.00	Notice Board					
	18.01	Supply and Erect Project Signboards - size 1 m x 2 m complete and erected in final position, all as specified. Remove at completion.	item	1		
18.00	Progress Claims		item	1		
19.00	Variations		item	1		
20.00	Prime Cost Items		item			
21.00	Provisional Sum		item			
BILL B - GROUND WORKS						
1.00	Clearing					
	1.01	Clear grub all grass and tress around the work site		2500		
2.00	Demolition					
	2.01	Demolish existing overflow concrete drain which is narrow and shallow as shown on site	Item	1		
	2.02	Remove all demolished debris and store on site to be reused	item	1		
3.00	Fill and Compaction					
	3.01	Supply, fill spread & compact and compact with 30 to 150mm hardcore fill and form fall towards propsed drainage	m2	2500		
4.00	Footing Excavations					
	4.01	Excavate the new drainage as per design and create falls	m3	360		
BILL C - CONCRETE WORKS						
1.00	Blinding Concrete					
	1.01	Concrete Base footing, minimum strenght is 15MPa	m3	15		
2.00	Formwork					
	2.01	Supply and construct temporary formwork equivalent to formwork type B	Item	1		
	2.02	Drain walls (formwork on both sides of the wall)	m2	600		
3.00	Concrete Insitu					
		Supply, place concrete using Readymix trucks				
	3.01	Concrete , 150mm thick concrete of 25MPa	m3	168		

Project:	RECONSTRUCTION OF PROPOSED CONCRETE DRAINAGE AT BOMANA PNGPOWER SUB STATION	
BILL OF QUANTITIES		

Item		Description	Unit	Qty	Rate	Amount
4.00	Reinforcements					
		Supply, Cut , bend, tie and place all reinforcements				
	4.01	Drains, 2 x F72 Double Mesh	m2	1000		
	4.02	Edge beam 4- Y16, R10 on both sides of the drain	lm	400		
BILL D - METAL WORKS						
1.00	Metal Grate					
	1.01	Supply and install Metal Grates over the drains, 1200m wide over the peoposed drainages	m2	300		

SUMMARY OF THE BILL OF QUANTITIES

BILL NO.	TRADE	
BILL A - PRELIMINARIES		
BILL B - GROUND WORKS		
BILL C - CONCRETE WORKS		
BILL D - METAL WORKS		
	TOTAL	
	VAT	
	GRAND TOTAL	

SECTION 2

JOB SPECIFICATION AND SCOPE OF WORKS

(1) SCHEDULE OF PRELIMINARIES

1.1 General

The contractor shall carry out the hard standing works for containerised control room, construction of cable trench and manholes as well as outlet stormwater drainages along the section outlined in the drawing or inferred in this specification. The contractor shall:

- locate and protect all existing utilities, whether indicated on the design drawings or discovered during the work. The Contractor shall immediately notify the Company's Authorized Representative when any utility not previously indicated or inaccurately indicated on the design drawing is discovered.
- The Contractor shall coordinate with the facility owner and shall allow entrance, opportunity, and ample time for all facility relocations, extensions, and modifications necessitated by the work.

1.2 Standards and Workmanship

All works shall be carried out to the accepted standard trade practices, local authority regulations and the relevant PNG and Australian Standards. The contractor shall be wholly responsible for the setting out, the accuracy and quality of his works. Superintendent's inspection of the work shall not be deemed as acceptance of the error. Corrections relating to such defects shall be made at the contractor's own expense.

1.3 Nature of Contract

This works shall be carried out in the form of a "Lump Sum Contract" with any approved variations paid for at the rates listed in the schedule of rates for variations where the type of work listed is the same or similar.

1.4 Location of Site / Place of Work

The work site is located at the Bomana - Substation site, National Capital District.

1.5 Scope of Works

The works covered in this specification requires the contractor to construct a Type 6 Stormwater Drainages with other outlet drainages and restoring of the washed out access road into the substation and backfilling, compaction of the Bomana Substation Area.

1.6 Site Inspection

Prior to lodging bids, bidders must inspect the site to fully inform themselves of the conditions. This includes confirmation of measurements and identifying any additional works required that may have been overseen by the superintendent. Bidders should then advise the superintendent during the tendering phase to have the works included in the scope and as a separate component in their bid.

1.7 Safety Requirement

The Contractor shall ensure that all Work Place Safety Standards and requirements are adhered to when carrying out his works. All accidents shall be reported to the superintendent. PNG Power shall bear no liability for any accidents due to the contractor's negligence.

1.8 Use of Second Hand Materials

No second hand material shall be used in the works except where indicated in the specification or shown on the drawings, or until they have been inspected and approved by the superintendent. Any materials reused shall be finished to "as new" condition.

1.9 Existing Equipment and Structures

The works will be carried out in and around a new substation site. Damages through recklessness on the part of the contractor will be made good at the Contractor's costs.

1.10 Boundary Limits

The Contractor shall ensure that he and all his personnel shall refrain from entering premises beyond the works area as shown on the site layout plan. PNG Power shall bear no liability for any damage or such to other properties or work personnel due to the contractor's negligence.

1.11 Transport to Site

The contractor is responsible for the transport of all materials and manpower to and from site.

1.12 Time for Completion

All required works shall be completed within one (1) week from the Date of Possession of Site given in the Letter of Acceptance.

1.13 Terms of Payment

As specified in the Letter of Acceptance.

1.14 Possession of Site

The date of possession of Site will be stated in the Letter of Acceptance. The contractor shall be given such possession of the site as is considered necessary to carry out these works but such possession shall not be deemed to mean exclusive possession.



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(2) EXCAVATION, BACKFILLING AND COMPACTION OF SUBSTATION AREA

2.1 Excavation

- I. The Contractor shall do light excavation to the contours, grades, and elevations indicated on the plan for soft spots.
- II. The Contractor shall haul and dispose of all surplus excavated materials. Disposal shall be done away from the site, unless otherwise noted. The Contractor shall meet the requirements of regulatory authorities regarding proper disposal.

2.2 Backfill:

- I. The backfill operation shall begin with selected materials after the removal of top soil and soft spot.
- II. Compaction: 95% minimum requirement
- III. Compaction Test: should be done by both contractor and the client rep.
- IV. Final Grade Elevation: The Contractor shall return the compacted area to PPL for its normal operations.

(3) TYPE 6 DRAINAGE CONSTRUCTION

3.1 Excavation

TRENCH SAFETY - The Contractor is responsible for obtaining and implementing the trench safety program with the client or with other local existing service connections such as water and electricity cable. All care should be taken before doing any excavation. All man on site will be given a safety induction before works begins.

3.2 Formwork Construction

This is a turnkey job. The Contractor shall supply all materials for this job of construction of concrete drainage, formworks, necks, frames and concrete covers/lids if required, select backfill, etc. as per required by the works specifications unless otherwise specified, in writing.

3.3 Concrete Slab & Wing Construction

The thickness of concrete slab in construction of type 6 storm water drainage should be 100 mm from any part of the stub angle to the nearest outer surface of the concrete to be uniformity in respect. All Wing Walls should be 150mm thick and the properties of concrete regarding its strength under compressing , tension, shear, punching and bending etc. as well as workmanship will conform to PNGS 1004 Code of Practice For Reinforced Masonry Structures. (PNG Masonry Code), AS 1012 Methods of Testing Concrete. All parts. AS 1302 – 1982 Steel Reinforcing Bars for Concrete. AS 1500 – 1974 Concrete Building Blocks The cement concrete used for construction should be M-150, 1 : 2 : 4 : 4 mix ratio.

(4) Gate Access Road Construction,

The contractor should also excavate 50m out from the center of the main gate access road and must backfill with selected materials and make this site a proper easement for heavy trucks accessing and turning as well as small cars. It should have gradients for smooth water flows.

(5) CLEAN UP

- 5.1 Upon completion, the work area shall be left clean of all unused materials, surplus excavated materials to be evenly spread and any other materials or scrap removed and disposed off from site



QUOTATION NO: E4325/2021

**SECTION 3
DRAWINGS**



QUOTATION NO: E4325/2021

Drawing No.:

Title

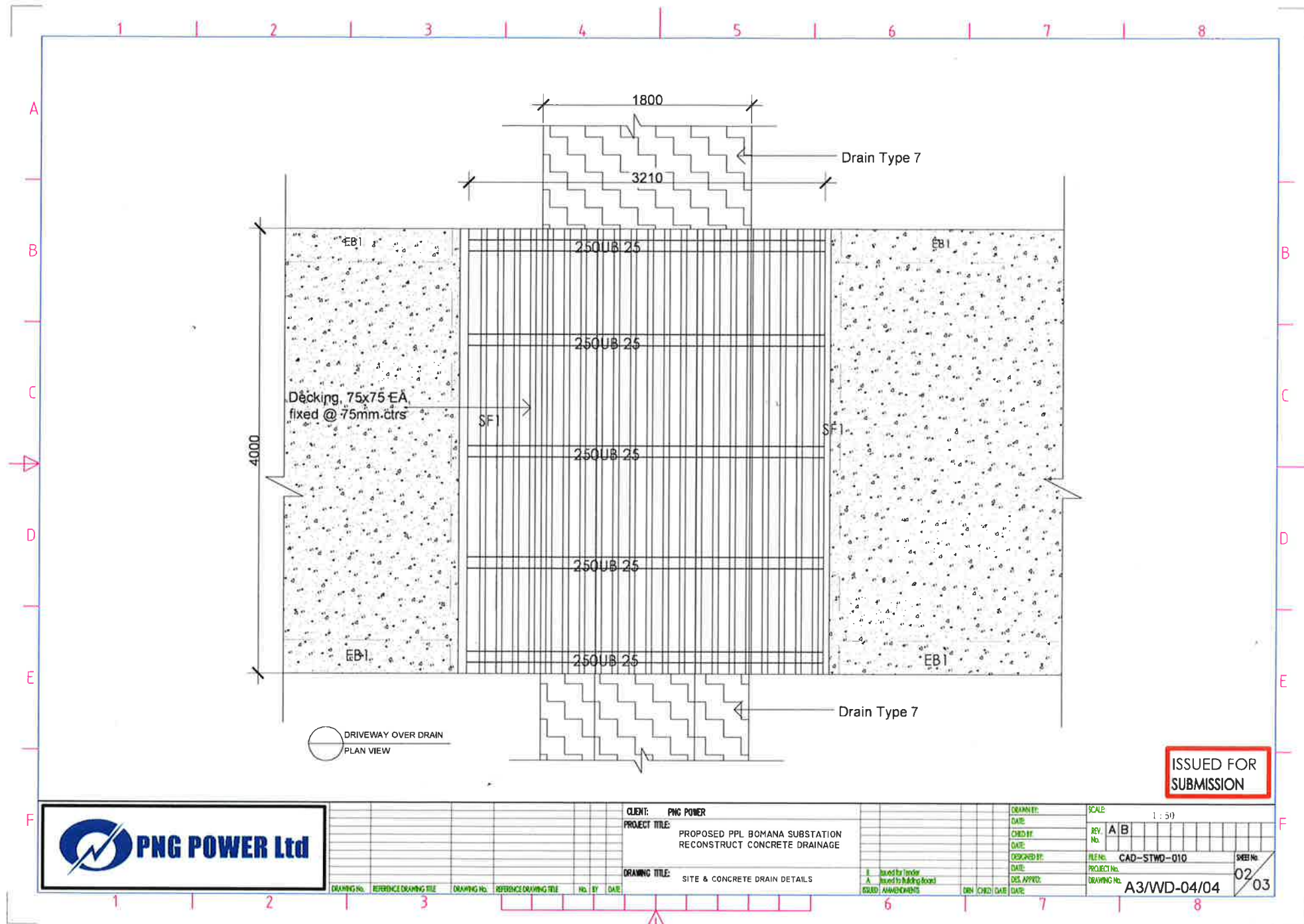
MXXXXX	Sheet 00	Cover and Drawing Index
MXXXXX	Sheet 01	Site Layout and Locality Plan

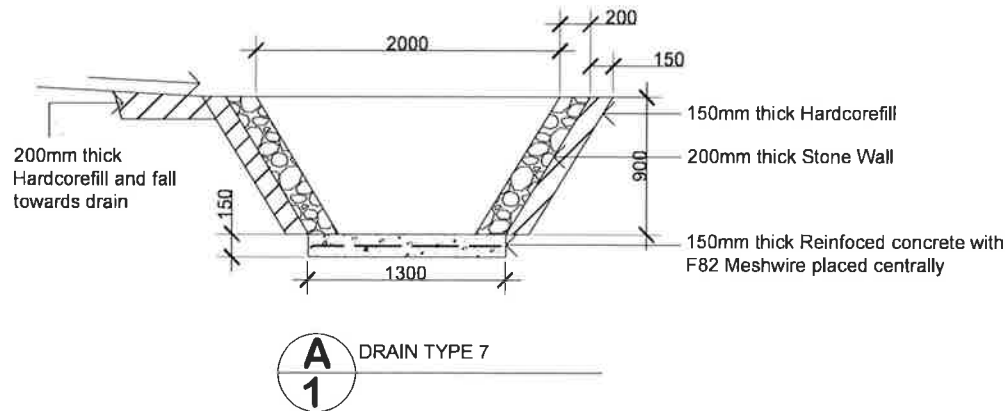
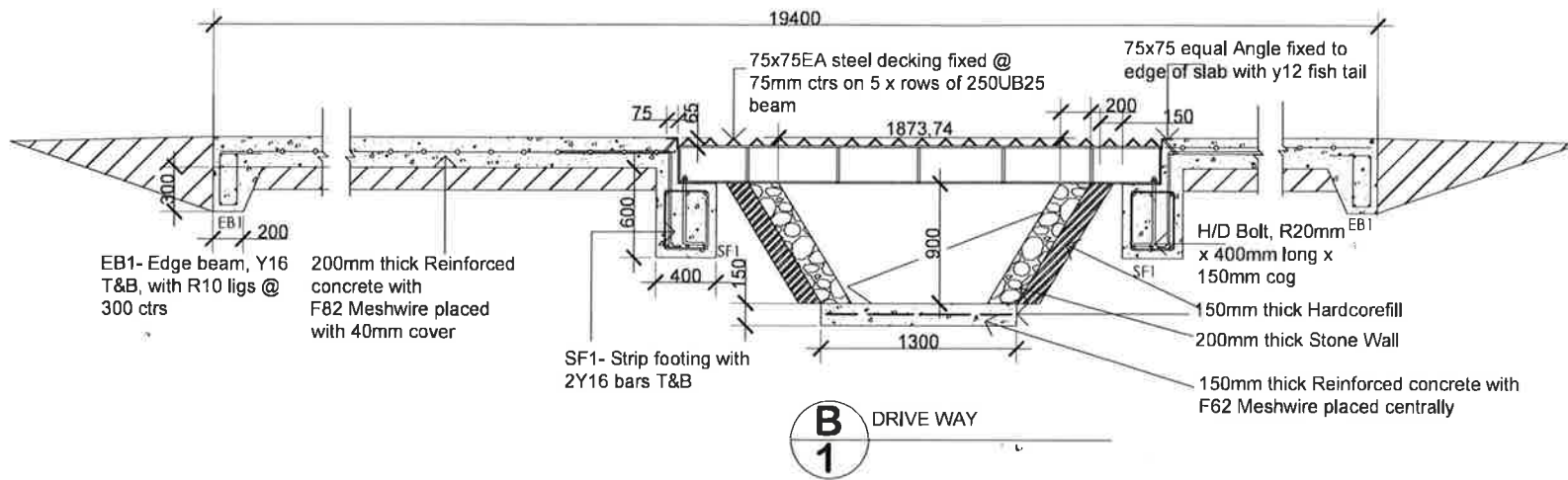


PPL BOMANA SUBSTATION CIVIL WORKS.

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3.0 DETAILS OF DRAINS AND DRIVE WAY.....	Sheet 3
4.0 Bill of Quantities (BOQ)	Sheets 4- 9





ISSUED FOR
SUBMISSION



				CLIENT: PNG POWER				DRAWN BY:				SCALE: 1 : 50			
				PROJECT TITLE: PROPOSED PPL BOMANA SUBSTATION RECONSTRUCT CONCRETE DRAINAGE				DATE:				REV. No. A B			
				DRAWING TITLE: SITE & CONCRETE DRAIN DETAILS				CHECKED BY:				FILE No. CAD-STWD-010			
				E: Issued for tender				DATE:				PROJECT No.			
				A: Issued for building board				DESIGNED BY:				DRAWING No. A3/WD-04/04			
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